Science in the spotlight at first Idaho Science Academy

Debby Turner

Homedale teacher Debby Turner lifts fingerprints from Kevin Cornwall as part of a CSI lesson.

For an enthusiastic group of 24 teachers, this summer's inaugural Idaho Science Academy provided a unique opportunity to gather knowledge, ideas and techniques to instill the joy of discovery in their elementary and middle school students.

Idaho National Laboratory, the Idaho Science, Math and Technology Coalition (ISMTC) and a team of Idaho classroom teachers have been working since last summer to implement a Science Academy to provide professional development for fourth- through seventh-grade teachers as a means to improve student achievement and interest in science. Ten highly skilled science teachers from across Idaho met last summer at INL's offices in Boise to develop the framework for the 2007 Idaho Science Academy. As a result of their ongoing work, collaboration with ISMTC and the financial support of INL, the 2007 Idaho Science Academy became reality for the Idaho teachers who met in Meridian July 9-12.

Chris Taylor teaches at Liberty Elementary in Boise and helped create the framework for the Academy last June. Taylor agreed to be on the instructional team for this year's pilot project. "Anything related to science, I'm there," Taylor said. Of this year's pilot group, Taylor said, "It's great to have all areas of the state represented."

During the Academy, participants gained knowledge, strategies and resources to help their students develop a minds-on approach to science, allowing them to become better thinkers and problem-solvers across disciplines. Research has demonstrated that when students receive quality inquiry-based science instruction coupled with an integrated literacy component, their performance in science increases, as well as that in other disciplines, most notably, in reading and mathematics.

Over the course of the four-day Academy, teachers practiced inquiry-centered instruction incorporating collaboration, practice, feedback and reflection. Lessons included constructing and flying a hot-air balloon, making rocket racers, examining mystery matter and simulating docking a space shuttle to the International Space Station.

This year's pilot program targeted groups of teachers from the same district who could support one another's efforts and take ideas back to share with other teachers in their schools. Homedale School District teachers JoAnn Morris, Taci Morris, Debby Turner and Kevin Cornwall will return to their schools with proven applications of scientific investigation. They commented that the Academy had energized them to go back to the classroom with new lessons and ideas. The Homedale District has a 30-40 percent Hispanic population, and the integration of vocabulary and language arts with science instruction will be particularly helpful to their students who are English-language learners.

Four teachers from northern Idaho's Lakeland School District participated at their superintendent's urging. Carol Parrott, Rob Edelblute, William Miles and David Moon appreciated the opportunity to network with other teachers and get ideas from them. They valued the emphasis on making science connections across the curriculum and the focus on active, inquiry-based science lessons.

Chris Taylor

Chris Taylor shows teachers how to play detective in his Crime Scene Investigation activity. Students practice classification by creating, lifting and analyzing fingerprints. Teachers discussed how to integrate history, math and language arts into the activity to provide a broad learning opportunity for students.

Training during the Academy also included instruction on how to use a rubric for student assessment as well as on how students can use science notebooks, which research has shown improves student language arts skills and conceptual understanding.

Aside from the obvious benefits of enhancing the teaching skills of science teachers and improving student achievement, the Idaho Science Academy will continue to establish links among K-12 teachers, higher education institutions, INL and industry in Idaho and enhance the transition for students from K-12 into higher education and, ultimately, into the workplace.

Kathy Dawes, who teaches in Moscow, said, "I want to thank the Idaho National Laboratory so much for making it possible to present the Science Academy Pilot Workshop this week in Boise. I was a member of the team of teachers who presented the workshop. According to the comments I heard and read from the participants, it was a great success! Through the workshops, I became more aware of the needs of elementary teachers regarding science education in their classrooms. The participants were incredibly engaged in all the activities and discussions and were very appreciative of all of our efforts to present them with effective ways to teach important science concepts at each grade level. I am very grateful to INL for making this possible, and I really hope that the Science Academy can become an annual event! Thank you."

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